

REMARKS

Applicant's counsel thanks Examiner Cooney for a careful examination of the present application. No claims have been amended herein. No new matter has been added.

Specification Objections

Paragraph [0048] has been objected to under 35 USC 132(a) as containing new matter. Paragraph [0048] provides written description of the invented foam as shown Figure 1, and is fully supported by Figure 1. More specifically, Figure 1 graphically represents acceleration versus velocity of the performance of the invented viscoelastic foam of Example 1, and as referenced by paragraph [0011]. As stated by the specification, results of impacting the invented foam of Example 1 are provided in Figure 1 (graphically), wherein the invented foam of Example 1 exhibited significantly less breakthrough acceleration (i.e., g's) than EPS for impact velocities from 2 to about 6.5 m/s (see paragraph [0048]). Original paragraph [0048] uses "about" to describe the graphical data of Figure 1. The added written description of the invented foam, which is objected to, merely provides a description of the graphical data shown therein, and does not add matter that is not supported by Figure 1 or suggested by the original specification, which specifically states that the invented foam of Example 1 exhibits lower breakthrough acceleration (i.e., g's). Figure 1, at about 2 m/s, does graphically show an acceleration of about 100 g's, and at about 6 m/s an acceleration of about 150 g's. Plainly stated, the graphed line for the invented foam crosses at about the 100 g's mark at about 2 m/s, and at about the 150 g's mark at about 6 m/s.

It has been held that drawings may provide an adequate written description of the invention in the event the written description portion of the application omits such a written description. For example, *In re Wolfensperger*, 302 F.2d 950, 133 USPQ 537

(CCPA 1962), is an instance of when the original drawings were used to provide written description of the invention under Section 112. In that case, the CCPA stated:

"... consider that the only informative and significant disclosure in many electrical and chemical patents is by means of circuit diagrams or graphical formulae, constituting "drawings" in the case."

"The practical, legitimate inquiry in each case of this kind is what the drawing in fact discloses to one skilled in the art. Whatever it does disclose may be added to the specification in words without violation of the statute and rule which prohibit "new matter," 35 USC 132, Rule 118, for the simple reason that what is originally disclosed cannot be "new matter" within the meaning of this law. If the drawing, then, contains the necessary disclosure, it can "form the basis of a valid claim." *Id.* 133 USPQ at 541-42.

In *Wolfensperger*, the CCPA held that figure 5 of the application clearly showed that the ring had a mean diameter corresponding to approximately the mean diameter of an annular chamber. In this regard, the CCPA held that the application satisfied the written description requirement, and thereby teaching that drawings may provide the basis for subsequent amendments to the specification without providing the prohibited new matter.

In view of the foregoing, applicant respectfully submits that the description of Figure 1 in amended paragraph [0048] does not add new matter to the application because Figure 1 in fact discloses the added written description. Accordingly, it is requested that the new matter objection is withdrawn.

Claim Rejections – 35 USC § 112

Claims 66 and 67 have been rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement, namely that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As noted above, amended paragraph [0048] provides adequate written description support for claims 66 and 67. The written description support of paragraph [0048], as based upon Figure 1, clearly supports claims 66 and 67. Figure 1 reasonably conveys to one skilled in the art that the inventor had possession of the claimed subject matter at the time of filing. Figure 1 shows the invented foam having a acceleration breakthrough of about 100 g's at about 2 m/s, and about 150 g's at about 6 m/s. Because drawings can provide the basis for subsequent amendments to the specification, as noted in the Wofensperger case, claims 66 and 67 are supported by the specification, namely in paragraph [0048] and Figure 1.

The present Office action also notes that the term "substantially 100% recoverable" in claims 66 and 67 is new matter. Originally filed claims 29 and 30 claimed a semi-rigid foam that is substantially 100% recoverable and paragraph [0033] discloses that the foams of the present invention can recover substantially 100% after impact. Paragraphs [0046] and [0048] also support this disclosure. It is respectfully not seen how the present application does not address the claim language of "substantially 100% recoverable." In view of at least the noted disclosures, the applicant respectfully request that the present rejection of claims 66 and 67 be withdrawn.

Claim Rejections – 35 USC § 103

All of the pending claims have been rejected under 35 USC § 103(a) as being obvious over Apichatachutapan et al. (hereafter "Api"). Of the pending claims, only claims 35, 54, 66 and 68 are independent.

Api is directed to flexible flame-retardant foams. Api does not teach a semi-rigid foam as claimed. Moreover, Api's foam is made with 2 (optionally 3) isocyanate-reactive components (see para. [0020]). The first isocyanate-reactive component includes at least 60 parts by weight of EO, and preferably at least 75 parts by weight of EO (see para. [0024]). This is consistent with Examples 1-6, see Table 1. The first isocyanate-reactive component is 75% EO in all 6 Examples. Thus, the claimed Part B composition including at least 40 parts by weight of one or a mixture of propylene oxide-extended amine-based polyether polyols being at least 3-functional and having an OH number less than or about 150 and having-substantially no ethylene oxide extension units is not taught by the first isocyanate-reactive component.

Generally stated, the second isocyanate-reactive component can have no EO. However, the second component is only used up to 40 wt % in the Examples (Example 3 – glycol-based polyol). Of the 6 examples, the first EO-rich polyol (75% EO) is present in at least 60 wt% (i.e., Examples 3, 5 and 6). Api's Examples do not combine an amine-based polyether polyol with no EO with the first EO-rich polyol. More specifically, Api's EO-free second reactive components are always glycol based (Examples 1, 2, 3). In the one example that does utilize an amine-based second reactive component, comparative Example 1, that composition does not give Api's result of being flame-retardant. Thus, Api does not teach using at least 40 wt % of an amine-based polyether polyol with no EO. In stark contrast, the only time an amine-based polyol is disclosed; it does not result in the invention being taught by Api. That is, the comparative Example of Api fails to give the desired flame-retardant property, and thus

is a failed experiment that contradicts any general teaching in Api of using an amine-based polyol for the second-reactive component. As specifically disclosed in Api, a reason that the comparative foam was not flame retardant may have resulted in the presence of an amine-based polyol whereas the successful examples did not use an amine-based polyol, but rather a glycerol-based polyol (see para. [0046]). It is clear that Api does not consider amine-based polyols to be suitable, let alone an amine-based polyol with no EO units.

Moreover, Api's use of non-amine based polyols containing no EO (i.e., glycol based), follows what one skilled in the art would select because amine-based polyols are traditionally used to produce rigid foams, whereas Api is making flexible foams and thus amine-based polyols, in particular with no EO, are not desirable. Any laundry listing of all available polyols in the art, or combinations thereof, without further instruction as to what combinations result in the touted invention, only invites undue experimentation and gives no clear goal or target in mind. The thrust of Api is focused on making flexible foams that are flame-retardant. As shown in the comparative Example, selection of an amine-based polyol does not result in Api's goal. As evidenced by Api's own comparative Example, there is considerable unpredictability in making foams having the touted flame retardant property. The fact that Api broadly lists the same polyols for all three components further suggests that it generally teaches any possible component rather than providing any guidance as to what combinations of components actually work. For example, as disclosed by Api, any or all of the 3 possible isocyanate-reactive components can be selected from the countless reagents listed in paragraphs [0027] and [0028]. However, as evidenced by at least the comparative example noted above, certain combinations do not work. When a reference discloses that any combination can be formed, and subsequently discloses that only certain combinations provide the desired result, the former teaching is at least limited as to the disclosed combinations that explicitly do not result in the intended

purpose.

Any general teaching in Api should be considered in context with the Examples therein when viewing the reference as a whole. Although Api may generally teach amine-based polyols, the only use of such does not result in a foam having a flame retardant property. Api clearly does not enable or teach one skilled in the art to use amine-based polyols having no EO, nor that the use of such polyols results in a flame retardant foam. Any overlap between the disclosure in Api and the foam of claims 35, 54, 66 and 68 does not serve as a part of the prior art, for the failed disclose of amine-based polyols in Api has not served to enrich its disclosure of flame retardant foams. That is, any teaching of the second reactive component being amine-based is rendered irrelevant as a prior art teaching as reported in Api's disclosure of the comparative example. Not only is it a teaching away, but it specifically guides one skilled in the art to not select an amine-based component or an amine-based component with no EO units. Adding an amine-based polyol contradicts the stated flame retardant property objective of Api, and thus modifying the foam of Api in such a way, as shown therein, renders the foam inoperable for its intended purpose. Accordingly, the claimed propylene oxide-extended amine-based polyether polyol being at least 3-functional and having an OH number less than or about 150 and having substantially no ethylene oxide extension units is not taught or suggested by Api because such polyol is amine-based and substantially free of EO. The applicant respectfully submits that Api does not render obvious the claims of the present invention.

Independent claim 66 also stands rejected as being obvious in view of Api. The present Office action states that Api's foams exhibit impact properties which are not seen to differentiate from those claimed based on the materials and make-ups of the preparations claimed. It is not seen where Api teaches the claimed impact properties of a semi-rigid viscoelastic foam as claimed. Api is directed to flexible viscoelastic foams that are flame retardant. As noted above, the cited reference do not teach or suggest

the invented foam, and thus cannot exhibit impact properties of the claimed foam. Thus, it is submitted that the cited references fail to render obvious the claimed foam of claim 66. Accordingly, it is respectfully submitted that the present rejection of claim 66 be withdrawn. All remaining rejected claims are dependent claims. For these reasons, all claims are now believed to be in condition for allowance:

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. 36211US1.

Respectfully submitted,
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